

1 **(C) CLAIM AMENDMENTS**

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- 3 1. (PREVIOUSLY SUBMITTED) A hard copy system comprising:
- 4 rewritable medium having a bistable, electrochromic, colorant susceptible to localized
- 5 electrical fields;
- 6 associated with said medium, an electrode subsystem producing said localized electrical
- 7 fields wherein said fields are associated with data to be printed; and
- 8 affixed to said electrode subsystem, a scanning navigation subsystem for positioning
- 9 said data on said medium.
- 10
- 11 2. (ORIGINAL) The system as set forth in claim 1, said electrochromic colorant further
- 12 comprising:
- 13 at least one layer of a molecular colorant coating wherein molecules of the coating are at
- 14 least bichromal and subjectable to bistable switching between color states under influence of
- 15 said localized electric fields.
- 16
- 17 3. (ORIGINAL) The system as set forth in claim 2 comprising:
- 18 said molecules exhibit an electric field induced band gap change, occurring via a
- 19 mechanism selected from a group including (1) molecular conformation change or an
- 20 isomerization, (2) change of extended conjugation via chemical bonding change, and (3)
- 21 molecular folding or stretching.
- 22
- 23 4. (ORIGINAL) The system as set forth in claim 1, said electrode subsystem and navigation
- 24 subsystem further comprising:

1 means for downloading, storing, sequencing, and printing text and images.

2
3 5. (ORIGINAL) The system as set forth in claim 1 wherein said electrode subsystem and
4 navigation subsystem are configured as a portable, hand-held, hard copy apparatus.

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6 6. (ORIGINAL) The system as set forth in claim 1 further comprising:
7 means for scanning an original document and for providing a data set representative of
8 said original document as said data to be printed.

9
10 7. (ORIGINAL) The system as set forth in claim 1 wherein said electrode subsystem and
11 navigation subsystem are housed in a palm-sized device.

12
13 8. (ORIGINAL) The system as set forth in claim 1 wherein said electrode subsystem and
14 navigation subsystem are configured as a hand-held page wide electrode array device.

15
16 9. (ORIGINAL) The system as set forth in claim 1 comprising:
17 said colorant layer incorporates at least one layer of a first plurality of microcapsules
18 having bichromal, bistable colorant within the microcapsules.

19
20 10. (ORIGINAL) The system as set forth in claim 1 comprising:
21 said medium has a said colorant layer on each printing surface thereof.

22
23 11. (ORIGINAL) A hard copy rendering method comprising:
24 selectively providing localized electric fields, each of said fields conforming to a

1 predetermined picture element size;

2 portably transporting said fields across a printing medium such that a bistable
3 electrochromic colorant layer of said medium is subjected to said electric fields; and
4 manipulating said electric fields for producing printed data in said electrochromic
5 colorant layer and rendering said hard copy in rewritable form.

6
7 12. (ORIGINAL) The method as set forth in claim 11 wherein a first polarity of said localized
8 electric fields prints a picture element.

9
10 13. (ORIGINAL) The method as set forth in claim 12 wherein a reverse polarity of said first
11 polarity of said localized electric fields erases a picture element.

12
13 14. (ORIGINAL) The method as set forth in claim 11 in a portable, hand-held scan-print
14 system.

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16 15. (ORIGINAL) The method as set forth in claim 11 wherein said electrochromic colorant
17 layer is at least one layer of a molecular colorant coating wherein molecules of the coating are
18 at least bichromal and subjectable to bistable switching between color states under influence of
19 said localized electric field.

20
21 16. (ORIGINAL) The method as set forth in claim 15 wherein said molecules exhibit an
22 electric field induced band gap change, occurring via a mechanism selected from a group
23 including (1) molecular conformation change or an isomerization, (2) change of extended
24 conjugation via chemical bonding change, and (3) molecular folding or stretching.

1 17. (ORIGINAL) The method as set forth in claim 11 wherein said colorant layer
2 incorporates at least one layer of a plurality of microcapsules having bichromal, bistable
3 colorant within the microcapsules.
4

5 18. (ORIGINAL) The method as set forth in claim 11 comprising:
6 providing a hand held apparatus for rendering the hard copy;
7 in said hand held apparatus, further providing means for scanning an image and
8 converting said image to a data set such that said data set is said printed data.
9

10 19. (ORIGINAL) The method as set forth in claim 18 comprising:
11 prior to printing the image, manipulating said data set for altering size of said image on
12 the hard copy.
13

14 20. (ORIGINAL) The method as set forth in claim 18 comprising:
15 prior to printing the image, manipulating said data set for altering the appearance of said
16 image on the hard copy.
17

18 21. (CANCELED)
19

20 22. (CANCELED)
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22 23. (CANCELED)
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24 24. (CANCELED)

1 25. (CURRENTLY AMENDED) ~~[[The apparatus as set forth in claim 24]]~~

2 A scanning printer comprising:

3 a housing adapted for handheld use; and

4 mounted within said housing,

5 an electrode array fixedly aligned for printing data rasters, said electrode array
6 providing localized pixel-sized electrical fields and acting as a plurality of tuned printheads such
7 that said printheads are tuned for association with molecular colorant print media, wherein said
8 molecular colorant print media has a substrate and at least one layer of electrochromic
9 molecular colorant on a printing surface of said substrate, ~~[[wherein the at least one layer of~~
10 molecular colorant ~~[[layer]]~~ is an electrochromic colorant having at least one layer of a
11 molecular colorant coating on said substrate-]] wherein molecules of the coating are at least
12 bichromal and subjectable to bistable switching between color states under influence of said
13 ~~[[localized-]]~~ electric field,

14 a navigation subsystem for tracking motion of said electrode array,

15 a data port for transmitting data with respect to said data rasters, and

16 connecting said array, subsystem and port, electronic circuitry associated with
17 said tracking and said data rasters.

18
19 26. (ORIGINAL) The apparatus as set forth in claim 25 wherein said molecules exhibit an
20 electric field induced band gap change, occurring via a mechanism selected from a group
21 including (1) molecular conformation change or an isomerization, (2) change of extended
22 conjugation via chemical bonding change, and (3) molecular folding or stretching.

23
24 27. (CANCELED)

1 28. (ORIGINAL) The apparatus as set forth in claim 27 further comprising:

2 sensors for generating image signals representative of an image as said sensors are
3 scanned across the image, and in a fixed position relative to said sensors, navigation devices
4 for forming at least one position signal indicative of inherent structure related properties
5 correlated to said image signals as said sensors are scanned, a data processor connected to
6 said sensors for processing said image signals and position signals, and a memory connected
7 to said processor for storing image signals and position signals as said data rasters.

8
9 29. (ORIGINAL) A handheld copier system comprising:

10 rewritable media having a bistable, electrochromic, colorant layer susceptible to
11 localized electrical fields; and

12 in a hand-held scannable housing, sensor means for generating image signals
13 representative of an image as said sensor means is scanned across the image, and in a fixed
14 position relative to said sensor means, navigation means for forming at least one position signal
15 indicative of inherent structure related properties correlated to said image signals as said sensor
16 means is scanned, and connected to said sensor means, processor means for processing said
17 image signals and position signals, connected to said processor means, memory means for
18 storing image signals and position signals, and connected to processor means, electrode
19 means for producing said localized electrical fields wherein said fields are associated with said
20 image signals and said positions signals for printing a copy of said image on said rewritable
21 media.

22
23 30. (ORIGINAL) The system as set forth in claim 29, said navigation means further
24 comprising:

1 connected to said electrode subsystem, electrical generating means for producing said
2 localized electrical fields.

3
4 31. (ORIGINAL) The system as set forth in claim 29 said electrochromic colorant layer
5 further comprises:

6 at least one layer of a molecular colorant coating wherein molecules of the coating are at
7 least bichromal and subjectable to bistable switching between color states under influence of
8 said localized electrical field.

9
10 32. (ORIGINAL) The system as set forth in claim 31 comprising:

11 said molecules exhibit an electric field induced band gap change, occurring via a
12 mechanism selected from a group including (1) molecular conformation change or an
13 isomerization, (2) change of extended conjugation via chemical bonding change, and (3)
14 molecular folding or stretching.

15
16 33. (ORIGINAL) The system as set forth in claim 31, the molecular colorant coating further
17 comprising:

18 a mosaic pixel pattern of primary color pixels such that full color printing is produced by
19 said electrode subsystem on said media.

20
21 34. (ORIGINAL) A method for scanning and printing, the method comprising:

22 scanning a document with a self-contained, hand held, scanning and printing apparatus;
23 and
24 printing data collected during said scanning on a rewritable medium with said apparatus

1 such that said document is reproduced on said medium.

2
3 35. (PREVIOUSLY SUBMITTED) The method as set forth in claim 34 wherein said
4 rewritable medium is a rewritable medium having a bistable, electrochromic, colorant
5 susceptible to localized electrical fields.

6
7 36. (PREVIOUSLY SUBMITTED) The method as set forth in claim 35 wherein said colorant
8 is at least one layer of a molecular colorant coating wherein molecules of the coating are at
9 least bichromal and subjectable to bistable switching between color states under influence of
10 said localized electrical fields.

11
12 37. (PREVIOUSLY SUBMITTED) A method of manufacture of a hand held scanning and
13 printing apparatus, the method comprising:
14 in a hand held scanner device, aligning an array of electrodes for producing localized
15 electrical fields for manipulating a bistable, electrochromic, molecular colorant on a rewritable
16 medium; and
17 tuning said fields such that molecules of the colorant are subjectable to bistable
18 switching between color states under influence of said fields such that data captured by said
19 device is printable on said medium.